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NEWS	22	SEP	26	WPIDS, WPINDEX, and WPIX coverage of Chinese and and Korean patents enhanced
NEWS	23	SEP	29	IFICLS enhanced with new super search field
NEWS		SEP	29	EMBASE and EMBAL enhanced with new search and display fields
NEWS		SEP		CAS patent coverage enhanced to include exemplified prophetic substances identified in new Japanese-language patents
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=> s epoxidation and catalyst and "Ti-MWW" and precursor and hydrothermal $15595\ \mbox{EPOXIDATION}$

254 EPOXIDATIONS

15629 EPOXIDATION

(EPOXIDATION OR EPOXIDATIONS)

27437 EPOXIDN

601 EPOXIDNS

27535 EPOXIDN

(EPOXIDN OR EPOXIDNS)

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(EPOXIDATION OR EPOXIDN)
        818459 CATALYST
        814741 CATALYSTS
       1048370 CATALYST
                 (CATALYST OR CATALYSTS)
        378012 "TI"
          1351 "TIS"
        379031 "TI"
                 ("TI" OR "TIS")
           262 "MWW"
             1 "MWWS"
           263 "MWW"
                ("MWW" OR "MWWS")
            58 "TI-MWW"
                ("TI"(W)"MWW")
        287451 PRECURSOR
        134313 PRECURSORS
        378508 PRECURSOR
                 (PRECURSOR OR PRECURSORS)
         79194 HYDROTHERMAL
             5 HYDROTHERMALS
         79197 HYDROTHERMAL
                  (HYDROTHERMAL OR HYDROTHERMALS)
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             5 EPOXIDATION AND CATALYST AND "TI-MWW" AND PRECURSOR AND HYDROTHE
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=> d l1 1-5 abs ibib
     ANSWER 1 OF 5 CAPLUS COPYRIGHT 2008 ACS on STN
T.1
AΒ
     A novel titanosilicate with the MWW topol., Ti-MWW,
     has been prepared by direct hydrothermal synthesis using boric
     acid as a structure-supporting agent, and also by post-incorporation of
     tetrahedral Ti species into MWW silicalite through controlled structural
     conversions between 3-dimensional crystalline MWW silicalite and its lamellar
     precursor. The catalytic properties of Ti-MWW
     have been compared with those of conventional titanosilicates.
     Hydrothermally synthesized Ti-MWW proves to be more
     effective in the epoxidn. of linear alkenes including
     functionalized ones, and also exhibits considerable activity for
     cycloalkenes using hydrogen peroxide as oxidant. Postsynthesized
     Ti-MWW, almost free of boron, catalyzes the alkene
     epoxidn. more effectively as a result of the tetrahedral Ti
     species different from those resulting from the direct synthesis, which
     turns out to be the most active titanosilicate catalyst for
     epoxidn. so far. The activity of Ti-MWW in
     the ammoximation of cyclohexanone is superior to that of TS-1, which is
     being industrially used. A new interlayer-expanded structure analogous to
     MWW has been prepared in the form of titanosilicate and denoted by Ti-YNU-1.
     Ti-MWW is further converted by phase delamination into a
     thin sheet material. Ti-YNU-1 and delaminated Ti-MWW catalyze the epoxidn. of bulky cycloalkenes more actively than
     Ti-MWW or large pore titanosilicates as well as
     mesoporous Ti-MCM-41.
                          2008:428104 CAPLUS
ACCESSION NUMBER:
TITLE:
                          Ti-MWW and related materials as
                         efficient oxidation catalysts
AUTHOR(S):
                         Tatsumi, Takashi; Wu, Peng; Fan, Weibin
CORPORATE SOURCE:
                         Chemical Resources Laboratory, Tokyo Institute of
                         Technology, 4259 Nagatsuta, Midori-ku, Yokohama,
                         226-8503, Japan
SOURCE:
                         Studies in Surface Science and Catalysis (2007),
```

29356 EPOXIDATION

170B(From Zeolites to Porous MOF Materials), 1051-1058

CODEN: SSCTDM; ISSN: 0167-2991

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2008 ACS on STN

AΒ Ti-MWW was prepared by acid treatment and calcination on a lamellar precursor which was synthesized under dynamic hydrothermal crystallization conditions using piperidine as a template, and boric acid as a structure-supporting agent. The crystallization time is shortened by adding Ti-MWW seeds and increasing stirring rate. UV-visible spectra show that the precursor contains tetrahedral and octahedral Ti species. Calcination of the precursor results in a partial condensation of the octahedral Ti to form the anatase phase. The octahedral Ti species belong to a kind of extra framework Ti, which can be removed easily by the acid treatment in a short time. The calcined Ti-MWW contains the anatase when the acid-treated time is too long. The characteristic IR band at 960 cm-1 is not observed for the Ti-MWW precursor, but it appears in the samples treated by acid. allyl alc. with H2O2 on Ti-MWW was studied. Ti-MWW with Si/Ti ratio of 20 and acid treatment for 12 .apprx. 16 h is more effective. The conversation of allyl alc. is 88.7%, and the selectivity for glycidol is 99% under the reaction conditions of 333 K and 30 min, but the catalytic activity of Ti-MWW

ACCESSION NUMBER: 2006:397985 CAPLUS

DOCUMENT NUMBER: 146:69422

TITLE: Epoxidation of allyl alcohol to glycidol on

Ti-MWW molecular sieves

AUTHOR(S): Chen, Xiaohui; Fan, Zhiyong; Quan, Xia; Wei, Kemei CORPORATE SOURCE: National Engineering Research Center of Chemical

Fertilizer Catalyst, College of Chemistry and Chemical Engineering, Fuzhou University, Fuzhou, 350002, Peop.

Rep. China

decreases when the acid-treated time is too long.

SOURCE: Cuihua Xuebao (2006), 27(3), 285-290

CODEN: THHPD3; ISSN: 0253-9837

PUBLISHER: Kexue Chubanshe

DOCUMENT TYPE: Journal LANGUAGE: Chinese

L1 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2008 ACS on STN

A novel post-synthesis method has been proposed to prepare a highly AΒ efficient titanosilicate catalyst with the MWW topol., Ti-MWW. The so-called reversible structural conversion method is based on a structural interchange between 3-dimensional MWW silicate and its lamellar precursor together a simultaneous incorporation of titanium through the treatment with an aqueous solution of titanium source and cyclic amine. This method overcomes the restriction problem between pore windows and titanium precursor probably encountered in the usual method using TiCl4 vapor at elevated temps. catalytic properties of postsynthesized Ti-MWW have been investigated by comparing with hydrothermally synthesized one as well as the conventional titanosilicates of TS-1 and Ti-Beta in the epoxidn. of various alkenes with hydrogen peroxide. Ti-MWW proves to be more effective in the epoxidn. of both simple and functionalized alkenes. Particularly, the novel postsynthesis method of a reversible structural conversion incorporates more active Ti species into the framework than the conventional hydrothermal

synthesis, leading to the most active epoxidn. titanosilicate

catalyst so far. Ti-MWW has been further

delaminated into thin sheet material which possesses an extremely open and accessible surface area but maintains the basic structure of zeolite.

Delaminated Ti-MWW catalyzes the epoxidn. of

bulky substrates of various cycloalkenes more actively than other

titanosilicates including mesoporous Ti-MCM-41.

ACCESSION NUMBER: 2005:418382 CAPLUS

DOCUMENT NUMBER: 144:150676

TITLE: MWW-type titanosilicate: novel preparation and high

efficiency in the epoxidation of various

alkenes

AUTHOR(S): Wu, P.; Fan, W.; Nuntasri, D.; Tatsumi, T.

CORPORATE SOURCE: Graduate School of Engineering, Yokohama National University, Hodogayaku, Yokohama, 2408501, Japan

SOURCE: Studies in Surface Science and Catalysis (2004),

154C(Recent Advances in the Science and Technology of

Zeolites and Related Materials), 2581-2588

CODEN: SSCTDM; ISSN: 0167-2991

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2008 ACS on STN

AB MWW type titanosilicate, Ti-MWW, has been synthesized

by the dry-gel conversion (DGC) method, and its physicochem. properties and catalytic performance in the liquid-phase epoxidn. of alkene have been compared with that of hydrothermally synthesized (HTS) Ti-MWW. The roles in the crystallization of silica source,

alkali cation, cyclic amine as a structure-directing agent (SDA), and boric acid structure-supporting agent have been investigated. The

crystallization

of Ti-MWW did not occur for the dry gels free of boric acid, but was feasible at a Si/B molar ratio as high as 12 in marked contrast to the ratio of 0.75 required in the hydrothermal synthesis. The sodium as a mineralization agent was not necessary and on the contrary inhibited the crystallization particularly at a high content.

seeding technique using deboronated MWW effectively accelerated the crystallization speed and reduced the amount of boric acid required.

As-synthesized

Ti-MWW-DGC lamellar precursors contained both

tetrahedral and octahedral species but the latter was selectively removed by acid treatment. Ti-MWW-DGC catalysts

showed lower intrinsic activity than ${\tt Ti-MWW-HTS}$ in the

epoxidn. of hex-1-ene with hydrogen peroxide probably because the

crystal size of the former was 10--20 times as large as that of the latter and then imposed significant diffusion problems for both the substrates

and the products.

ACCESSION NUMBER: 2005:224837 CAPLUS

DOCUMENT NUMBER: 142:323629

TITLE: Synthesis of Ti-MWW by a dry-gel

conversion method

AUTHOR(S): Wu, Peng; Miyaji, Takayuki; Liu, Yueming; He, Minyuan;

Tatsumi, Takashi

CORPORATE SOURCE: Shanghai Key Laboratory of Green Chemistry and

Chemical Processes, Department of Chemistry, East China Normal University, Shanghai, 200062, Peop. Rep.

China

SOURCE: Catalysis Today (2005), 99(1-2), 233-240

CODEN: CATTEA; ISSN: 0920-5861

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal LANGUAGE: English

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2008 ACS on STN

AB A novel titanosilicate with the MWW topol., Ti-MWW,

has been prepared by direct hydrothermal synthesis using boric acid as a structure-supporting agent, and also by post-incorporation of tetrahedral Ti species into MWW silicalite through controlled structural conversions between three-dimensional crystalline silicalite and the lamellar precursor. Ti-MWW is further converted by

delamination into a thin sheet material applicable to the reaction of bulky reactants. Both direct hydrothermal synthesis and

postsynthesis methods make it possible to introduce a controllable amount of Ti species into the MWW structure. An acid treatment of uncalcined samples is essentially important for the removal of the extraframework octahedral Ti species located on the exterior layer surface. The

catalytic properties of Ti-MWW have been compared with

those of conventional titanosilicates (TS-1, TS-2, Ti-Beta, Ti-MOR,

Ti-MCM-41, etc.) in the epoxidn. of various alkenes with hydrogen peroxide. Hydrothermally synthesized Ti-MWW

proves to be more effective in the epoxidn. of linear alkenes

including functionalized ones, and also exhibits considerable activity for cycloalkenes. Moreover, it shows a unique shape selectivity not shared

with other titanosilicates in the epoxidn. of cis/trans

 ${\tt geometric\ alkene\ isomers.\ Postsynthesized\ Ti-MWW,}$

nearly free of boron, catalyzes the alkene epoxidn. more

effectively as a result of the tetrahedral Ti species different from those resulting from the direct synthesis, which turns out to be the most active

epoxidn. titanosilicate catalyst so far. Delaminated Ti-MWW, possessing an extremely open and accessible

surface area but maintaining the basic structure of zeolite, catalyzes the

epoxidn. of various cycloalkenes more actively than large pore titanosilicates including mesoporous Ti-MCM-41.

ACCESSION NUMBER: 2004:378219 CAPLUS

DOCUMENT NUMBER: 141:213439

TITLE: A New Generation of Titanosilicate Catalyst:

Preparation and Application to Liquid-Phase

Epoxidation of Alkenes

AUTHOR(S): Wu, Peng; Tatsumi, Takashi

CORPORATE SOURCE: Department of Chemistry, Shanghai Key Laboratory of

Green Chemistry and Chemical Processes, East China Normal University, Shanghai, 200062, Peop. Rep. China

SOURCE: Catalysis Surveys from Asia (2004), 8(2), 137-148

CODEN: CSAABF; ISSN: 1571-1013 Kluwer Academic/Plenum Publishers

PUBLISHER: Kluwer Aca DOCUMENT TYPE: Journal

LANGUAGE: English
REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS

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